

ABSTRACT OF THE DISCLOSURE

The present invention relates to an optical encoder for measuring the speed and direction of a moving raster. The raster may be moving linearly or angularly and may further be connected to a moving element, such as a spinning shaft, of which speed and orientation measurement is sought. The raster may comprise a slit plate or the like and include many formations in sequence. The formations may be successively opaque and transparent to light. The raster modulates light from a light source and the modulated light is detected by at least one set of three photodetectors. Output of the photodetectors is then used to generate a reference signal to which individual outputs are compared. The results of the comparisons are indicative of the speed and direction of the raster and moving element to which the raster is attached. The at least one set of three photodetectors are oriented such that the combined lengths of the light receiving areas of the set of three photodetectors is between one half and one period of the raster. The photodetectors and evaluating circuitry used to process their output may be semiconductor components on a single substrate.